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ABSTRACT

Several studies have indicated that costs of alcoholism treatment are partially or completely offset by monetary benefits of reduced health and legal system costs after such treatment, although most of these studies have been conducted in the private rather than the public alcoholism treatment system. This study examined the health and legal system costs for alcoholics treated at a Veterans Administration (VA) Medical Center (Boston area, Massachusetts). Couples (N=59) in which the husband was alcoholic received 10 weekly sessions of behavioral marital therapy (BMT). Thirty of the couples were randomly selected to receive 15 additional conjoint couples relapse prevention (RP) sessions over the next 12 months. Health, legal, and treatment delivery costs were measured. Results indicated that: (1) alcohol-related health care and legal costs decreased after BMT; (2) the cost of BMT was offset by reductions in health care and legal costs; (3) both BMT only and BMT with RP showed decreases in health care and legal costs and positive benefit to cost ratios. However, the extra cost of adding RP session to BMT did not lead to proportionally greater health care savings. Thus, although adding RP to BMT can be justified on clinical grounds, the present results did not find evidence that the longer treatment can be justified solely on economic grounds. Longer term follow-ups in progress will provide additional cost benefit information. (ABL)

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Cost Benefit Analyses of Behavioral Marital Therapy With and Without Relapse Prevention Sessions for Alcoholics and Their Wives

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ABSTRACT

Fifty-nine couples in which the husband was alcoholic were treated at a VA Medical Center in Massachusetts. All couples received 10 weekly sessions of behavioral marital therapy (BMT). Thirty of the couples were randomly selected to receive 15 additional conjoint couples relapse prevention (RP) sessions over the next 12 months. Health, legal and treatment delivery costs were measured. Results indicated that: 1) alcohol-related health care and legal costs decreased after BMT; 2) The cost of BMT was offset by reductions in health care and legal costs; 3) both BMT only and BMT with RP showed decreases in health care and legal costs and positive benefit to cost ratios. However, the extra cost of adding RP sessions to BMT did not lead to proportionally greater health care cost savings. Thus, although adding BMT to RP can be justified on clinical grounds, the present results did not find evidence that the longer treatment can be justified solely on economic grounds. Longer term follow-ups in progress will provide additional cost benefit information.

INTRODUCTION

Several studies have indicated that costs of alcoholism treatment are partially or completely offset by monetary benefits of reduced health and legal system costs after such treatment (2,4,5), although most of these studies have been conducted in the private rather than the public alcoholism treatment system. Some evidence suggests that favorable cost offsets may not be apparent for the multi-problem, low-income, clientele served by public treatment systems like the VA (1,6). Furthermore, cost benefit data are not available for promising new treatments like marital therapy (3).

Therefore, the present study sought to determine among alcoholics treated at a VAMC the answers to three questions:

(1) Do health and legal system costs decrease in the 18 months after entering an outpatient BMT alcoholism treatment program?

(2) Do such health and legal system cost decreases exceed the cost of delivering the BMT program (i.e., provide monetary benefits)?

(3) Is the additional cost of adding RP sessions to BMT offset by further reductions in health and legal system costs?

Previous work (7) has demonstrated that RP sessions have a positive effect clinically, but the additional cost of RP sessions was not previously considered.

Method

Overview. Newly abstinent alcoholic husbands who received RP over the 12 months following BMT were superior to husbands given BMT only when assessed on scales of alcoholism and marital adjustment at the conclusion of RP sessions (7). The present study used additional data obtained from the same subjects. The cost of treatment for BMT only and BMT with RP was measured. Costs incurred due to health care (e.g., hospitalized due to drinking) and alcohol-related legal system costs (e.g., DUI arrests) were also measured for the year before starting BMT (Baseline) and the 18 months after starting BMT (Followup).

Subjects. Subjects were 59 couples with an alcoholic husband who entered the Counseling for Alcoholics' Marriages (CALM) Project at the VA Medical Center in Brockton and West Roxbury, Massachusetts. Husbands had a mean (M) age of 44 years (SD = 8), and were married for a (M) of 15 years (SD = 10). MAST scores ranged from 11-54 with a (M) of 37 years (SD = 11). A comprehensive account of inclusion and exclusion criteria was previously provided (7). Generally, these couples were married and living together, the husband was an alcoholic without other substance use disorders, who drank within 120 days of initial assessment.

Procedure. The study procedure was previously described in detail (7). The initial contact consisted of a screening interview, followed by two to three pre-treatment assessment sessions during which drinking history interviews and self-report questionnaires on marital adjustment were obtained. Following the assessment, patients met with clinical staff for several pre-group sessions to stabilize any crises, assess drinking and marital problems, and negotiate an Antabuse Contract.

The BMT couples group sessions followed, consisting of 10 weekly meetings of four to five couples. One week after the last BMT group session, the post BMT assessment was conducted in which drinking interview and marital adjustment questionnaire data were collected. After the assessment was

completed, couples were randomly assigned to receive or not receive RP sessions in the next 12 months. All couples were contacted for Followup data collection every 90 days for the year after the end of BMT.

The measures used to assess drinking and marital adjustment were also described in detail elsewhere (7). In addition, several measures of cost were computed for the present study. All cost measures were computed by multiplying the number of days on which costs were incurred by a per diem rate for each cost. The per diem cost of residential treatment was $43.54, a figure provided by the social work department at the VA, based upon residential treatments to which patients were referred. The mean cost of a day in jail is $63.01 according to the correction department public information officer.

The cost of inpatient and outpatient visits were taken from the VA cost distribution report. This report provides a cost based upon the average costs of services provided to VA patients, including treatment for alcohol dependence. The costs are derived from self reports of each department. The VA cental office then computes national and local costs. The local costs were used in the present study. Thus, all hospital costs were based upon VA figures. The per diem rate for inpatient hospitalization due to alcohol was $260.73, and $54.55 for an outpatient visit.

Health and legal system costs were calculated for both Baseline and Followup. Health costs consisted of hospitalizations due to alcohol and residential treatment. Jail stays comprised the legal system costs. Monetary benefits of health and legal costs were obtained by subtracting Followup from Baseline. Two indices were used to compare the monetary benefits to the cost of treatment delivery. The first was simply the difference between the monetary benefits and the cost of treatment. The other was a benefit to cost ratio, monetary benefits divided by cost of treatment.

Results

Health and legal system costs remained the same for 15 patients (25.42%), from Baseline to Followup. All but one of those 15 patients had no health or legal costs at either time. Four patients (6.78%) had greater costs at Followup than Baseline. The cost increases at Followup were $260.73, $782.19, $3326.48 and $28,347.79 for those four patients. The other 40 patients (67.80%) had lower costs at Followup, though with considerable variability in the amount of the difference, ranging from $58.14 to $35,720.01.

The results for the questions raised at the outset are as follows:

1. **Do health and legal system costs decrease in the 18 months after entering an outpatient BMT alcoholism treatment program?** Yes, results indicate that health and legal costs did decrease after BMT, with or without RP, in followup as compared to baseline (see Table 1 and Figure 1). A *t*-test used to compare Baseline to Followup was significant ($t(58)=3.62$, $p=.001$). Figure 2, which presents the health and legal cost savings after treatment, provides evidence for monetary benefits of BMT.

2. **Do the above statistically significant health and legal system cost decreases exceed the cost of delivering the BMT program?** The answer is yes. Question #2 was addressed by dividing monetary benefits by the cost of BMT to yield a benefit to cost ratio. All benefit to cost ratios were greater than one (see bottom of Table 1 and Figure 4), since the benefits were greater than cost of the BMT treatment. A similar index, computed by subtracting cost of BMT from monetary benefits, and also presented in Table 1, was positive, indicating similar results. This was further supported by comparing BMT treatment costs to benefits (Baseline minus Followup costs) with a *t*-test, which indicated that the monetary benefits in the form of health care cost savings after BMT significantly exceeded the cost of delivering BMT $t(58)=-2.45$, $p<.05$.

3. Is the additional cost of adding RP sessions to BMT offset by additional monetary benefits in health and legal costs? No, comparisons of BMT only with BMT plus RP were made to assess question # 3. Between group comparisons were made on 3 measures using a t-test for each (see Figures 2-4). Only the benefit to cost ratio was significant which actually indicated a better ratio for BMT only. Thus, although adding RP to BMT lead to better clinical outcomes (7), the additional RP sessions did not enhance the cost benefit of BMT.

CONCLUSIONS

To summarize, results indicate that alcohol-related health care and legal costs decrease after BMT. Furthermore, the cost of providing BMT in alcoholism treatment to a VA patient population are offset by reductions in health care and legal costs in the 18 months after as compared with the year before BMT. Both standard BMT and the longer and more costly form of BMT with the additional RP sessions showed (a) decreases in health care and legal costs after as compared to before treatment and (b) benefit to cost ratios greater than one indicating that health care cost savings (i.e., benefits) exceeded the costs of delivering the BMT treatments.

Although adding RP sessions to BMT produced better clinical outcomes (7), the extra cost of adding RP sessions to proportionally BMT did not lead to greater health care cost savings. Thus, although adding BMT to RP can be justified on clinical grounds, the present results did not find evidence that the longer treatment can be justified solely on economic grounds. Longer term followups in progress will provide additional cost benefit information.

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Table 1

	BMT only	BMT+RP	Entire Sample
		Costs of Delivering Study Treatment	
M	$864	$1640	$1259
(SD)	(156)	(203)	(430)
Range	$545 - $1200	$1091 - $2073	$545 - $2073
		Baseline and Follow-up Health and Legal System Costs	
Baseline			
M	$6163	$4356	$5244
(SD)	(8358)	(7248)	(7799)
Range	$0 - $32,331	$0 - $35,720	$0 - $35,720
Follow-up			
M	$1425	$1225	$1323
(SD)	(3327)	(5175)	(4329)
Range	$0 - $15,254	$0 - $28,348	$0 - $28,348
		Monetary Benefits	
		(Baseline - Followup)	
M	$4738	$3131	$3921
(SD)	(7190)	(9343)	(8322)
Range	-$3326 - $32,331	-$28,348 - $35,720	-$28,348 - $35,720
		Benefit to Cost Comparisons	
		Monetary Benefits Minus Cost of Treatment Delivery	
M	$3874	$1491	$2662
(SD)	(7183)	(9286)	(8335)
Range	-$4254 - $31,294	-$29,657 - $33,865	-$29,657 - $33,865
		Benefit to Cost Ratio	
M	5.59	1.71	3.62
(SD)	(7.77)	(6.02)	(7.15)
Range	-3.59 - 31.19	-21.65 - 19.26	-21.65 - 31.19

FIGURE 1

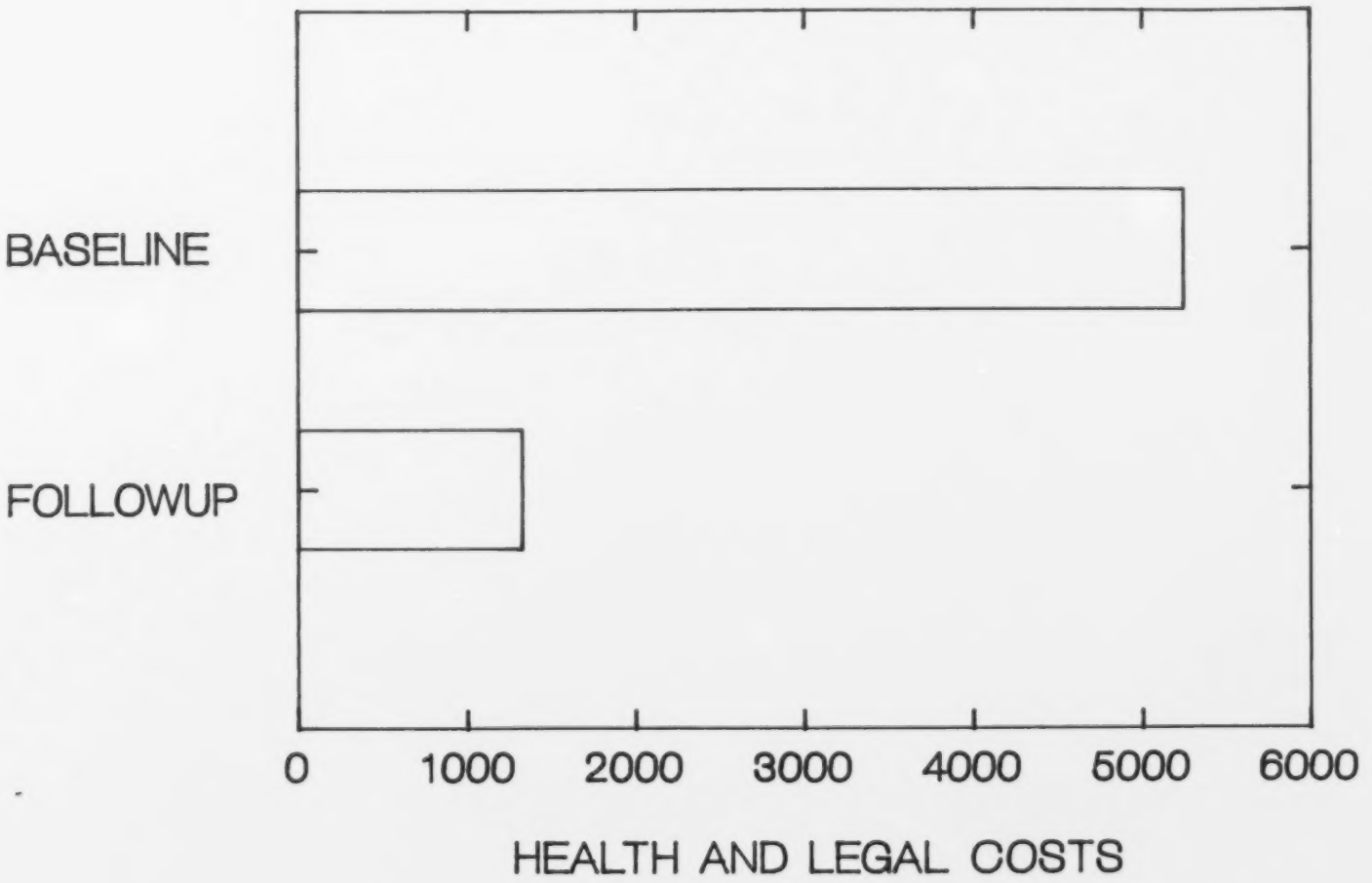
BASELINE
FOLLOWUP
0
1000
2000
3000
4000
5000
6000
HEALTH AND LEGAL COSTS

FIGURE 2

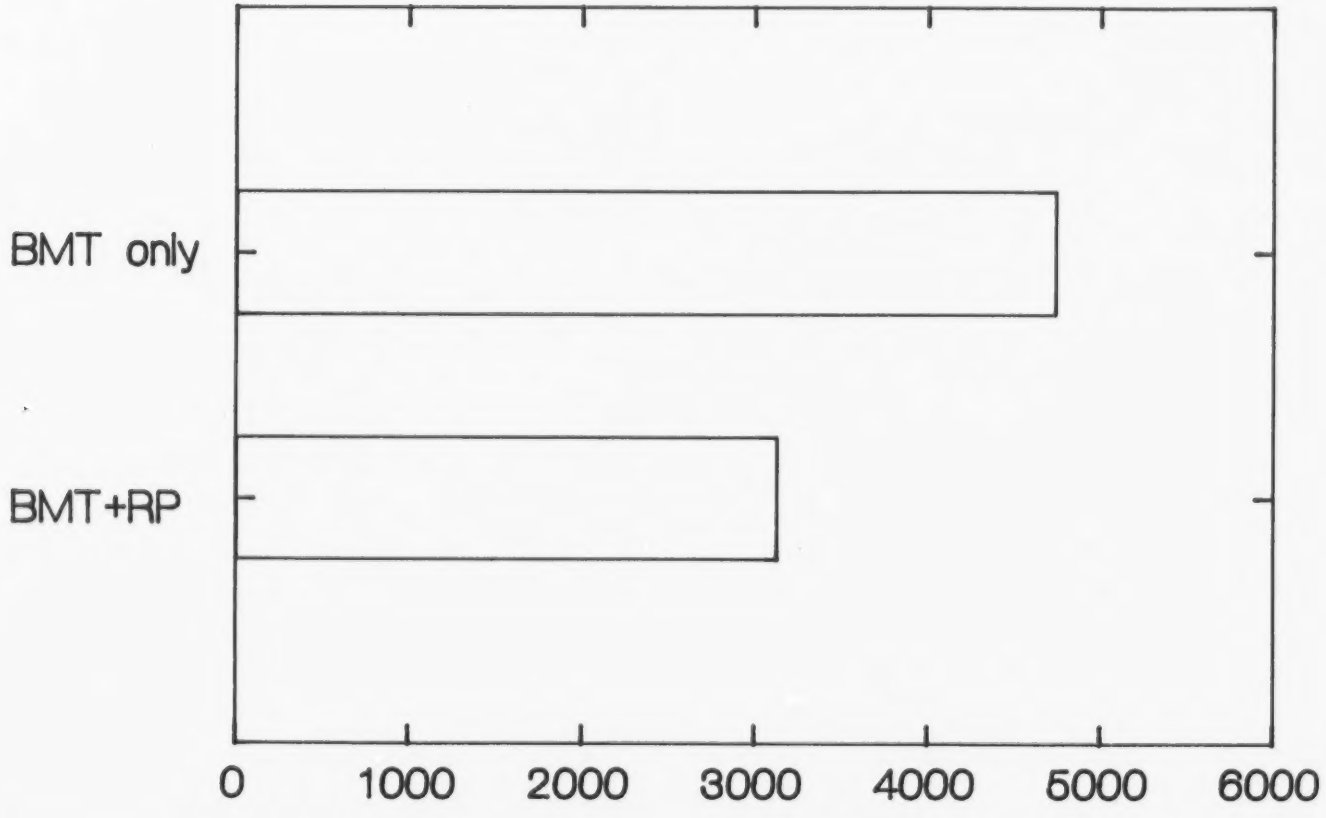
BMT only
BMT+RP
0
1000
2000
3000
4000
5000
6000
HEALTH & LEGAL COST SAVINGS
AFTER TREATMENT (i.e., BENEFITS)

FIGURE 3

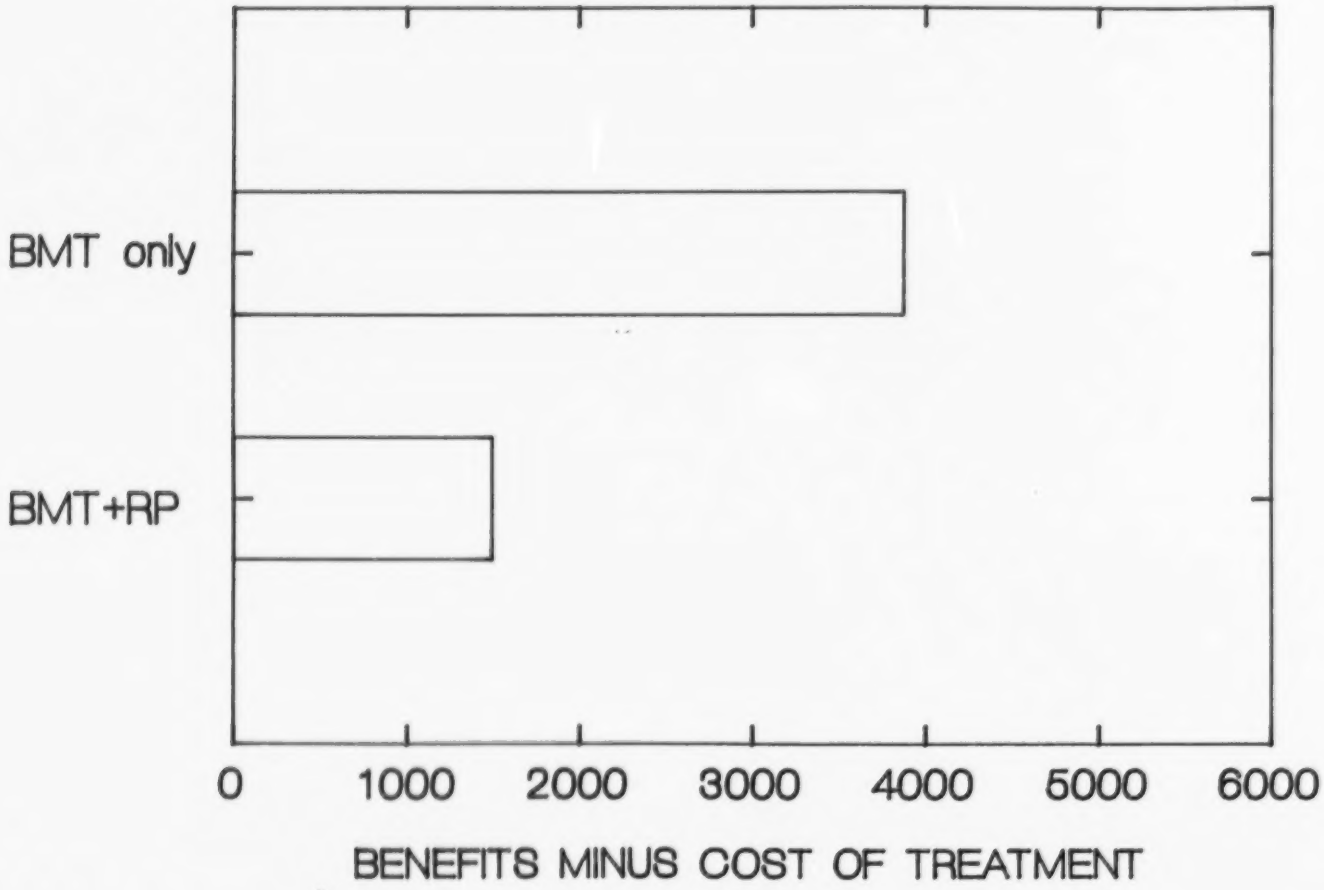
BMT only
BMT+RP
0
1000
2000
3000
4000
5000
6000
BENEFITS MINUS COST OF TREATMENT

FIGURE 4